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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

YC/T 541-2024

Replacing YC/T 541-2016

Cigarettes - Correction of detection data for NFDPM and carbon monoxide in mainstream smoke

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces YC/T 541-2016 "Correction of tar and carbon monoxide test data in mainstream cigarette smoke" and is consistent with YC/T 541-Compared with 2016, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

--- Changed the scope of application to apply to mainstream smoke tar and monoxide of cigarettes of different circumferences and lengths that meet the requirements of domestic production specifications Correction of carbon dioxide test data (see Chapter 1, Chapter 1 of the 2016 edition);

--- Combine "Total ventilation rate, tar content and carbon monoxide content detection of cigarettes" into one chapter and separate it from "Total ventilation rate correction of cigarettes" (see Chapters 5 and 6, Chapters 4 and 5 of the 2016 edition);

--- The calculation formula of tar correction value has been changed (see 7.2, 6.2 of the 2016 edition);

--- The calculation formula of carbon monoxide correction value has been changed (see 7.3, 6.3 of the 2016 edition).

1 Scope

This document describes a method for correcting data from tar and carbon monoxide measurements in mainstream cigarette smoke to standard atmospheric pressure conditions.

This document applies to the ISO standard for tar and carbon monoxide in mainstream

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cigarette smoke under atmospheric pressure conditions of 78.0kPa~101.3kPa Correction of suction mode detection data.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 19609 Determination of total particulate matter and tar in cigarettes by conventional analytical smoking machines GB/T 22838.15 Determination of physical properties of cigarettes and filter rods Part 15: Determination of cigarette ventilation Definition and measurement principle GB/T 23356 Determination of carbon monoxide in the gas phase of cigarette smoke - Non-scattering infrared method

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Principle

Tar and carbon monoxide in mainstream cigarette smoke are measured using a modified formula with atmospheric pressure and cigarette ventilation rate as input variables.

The data is corrected to eliminate the systematic errors caused by the difference in test atmospheric pressure.

5.Detection of total ventilation rate, tar content and carbon monoxide content in cigarette smoke the total ventilation rate V, paper ventilation rate VP and filter ventilation rate VF of cigarettes were tested according to the method specified in GB/T 22838.15.

The tar content and flue gas carbon monoxide content were tested according to the methods specified in GB/T 19609 and GB/T 23356, with the results accurate to 0.01 mg.

6 Correction of total cigarette ventilation rate

Calculate the total ventilation rate correction value Vc according to formula (1), with the result accurate to 0.1%.

P x VP

P x VF

Where.

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Vc---total ventilation rate correction value, %;

P0---standard atmospheric pressure, in kilopascals (kPa), generally 101.3kPa;

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